

IN THE SPECIFICATION

Please amend the paragraph at page 1, lines 21-28, to read:

Today's telecommunication networks involve ever richer and more detailed information facets, which can require increasingly complex network management systems. These management systems now include such ~~modelling~~ modeling concepts as management structures, routes and paths, and/or logical verses physical topologies. Furthermore, these systems must manage the transmission of data traffic, including voice, video, and data, and other information over a variety of transmission mediums, such as wireless, copper, and fibre optic lines. In addition, the management systems are also typically ~~utilised~~ utilized in managing network growth and/or modification as the network evolves.

Please amend the paragraph at page 3, lines 1-14, to read:

Most network information in current management systems is permanently displayed inside the combined network view. The network view normally provides the total number of attached nodes and links as a combined view on the GUI. However, experience has shown that this single view is only practical in maintaining networks with a limited number of segments and associated nodes. Accordingly, as more connections are represented in the network along with their attributed information sets, this architecture can create a confusing structure of overlapping links and nodes crossing in all directions. This can cause problems in distinguishing between specific adjacent attached network elements, in identifying a desired node, and in selecting specific network items contained in the GUI display. Consequently, the topology and connection logic can get lost in a graphical chaos, which can increase the amount of time the network manager must spend in ~~analysing~~ analyzing the network. Furthermore, the nodes and associated links can be partially occluded or completely hidden from view, which can make the visual clutter more acute and tends to provide network representations that are visually cluttered, complex, and difficult to read and use.

Please amend the paragraph at page 4, lines 8-16, to read:

Another disadvantage of current telecommunication network management systems is that isolation of specific subsets contained in the combined Network view can be difficult, even more so when the reference network or the subset information is overly dense and complex, or when

one is not familiar with these structures. Typically, network managers have to refer to some external list of elements composing the subset they seek and locate these in the combined network view. Each time an element is located, the network manager typically ~~memorises~~ memorizes the elements position to progressively compose a mental image of the subset in context with the combined network view, even when the identified elements are placed in separate multiple view representations.

Please amend the paragraph extending from page 8, line 27 to page 9, line 11, to read:

The network management tool 10 can be adapted to perform two functions for operating the display 11. Firstly, it can present the GUI 12 on the display 11 to enable the presentation of an altered version of the base model representation 18a with the communication devices 14, links 13, and attributes to the manager in a coherent manner, as well as to enable the receipt of instructions from the manager through ~~a user input device~~ user input devices 8 to provide for alteration instructions. Secondly, the network management tool 10 can co-ordinate the transfer of the information set 16 for storing in a local database 6 of the network management tool 10, and to perform processing on the information set 16 stored in the local database 6 in accordance with the instructions received from the manager through the user input devices 8 and a computer readable medium 9. This processing is used to put the information set 16 into the base model representation 18a in a desired format by the network manager for display on the display 11. The network management tool 10 thereby provides altered telecommunication overlay views 18b, c, d, e, f, (see additional figures) to help enable the efficient representation and exploration of the telecommunication network layout 3, through the use of selectively displayed and selected portions of the telecommunication information set 16.

Please amend the paragraph at page 9, lines 13-23, to read:

The data collector 4 in communication with the network management tool 10 is preferably capable of collecting the information ~~sets~~ set 16 concerning the communication devices 14 and links 13 contained within the telecommunication network layout 3. ~~These~~ The information ~~sets~~ set 16 can include one or more specific information set(s), for example containing information relating to, logout data, element state, configuration data, connectivity data, ~~eategorisation~~ categorization data, and status and performance information. The possible

status information set 16 can include a warning flag, a failure notice, another alarm indication, and an "OK" flag. The possible performance information set 16 can include signals comprising particular network entities error rates and percent utilization. The specific information sets 16 set(s) can be stored in the global database 5 as status and performance attributes respectively of the communication devices 14 and links 13, which is then accessed by the network management tool 10 for storage in the local database 6.

Please amend the paragraph extending from page 9, line 25 to page 10, line 5, to read:

The global database 5 receives and stores the information set 16 from the data collector 4. The entry of this information set 16 to the global database 5 could be made by a central operator at the global database 5, or alternatively could be communicated through the telecommunication network layout 3 and the data collector 4 by operators at remote locations, such as customer sites. Alternatively, this information set 16 may be entered into the global database 5 by having the communication devices 14 and links 13 contained in the telecommunication network layout 3 directly communicate with the global database 5. ~~This~~ The information sets set 16 can represent a substantially real time status of the communication devices 14 and links 13 contained within the telecommunication network layout 3, as available to the network management tool 10 to provide a stable information sets set 16 with minimized delay times minimal time delay. However, it should be noted that information sets set(s) 16 containing historical network status could also be stored if desired.

Please amend the paragraph extending from page 16, line 17 to page 17, line 2, to read:

Referring to Figures 5 and 6, a further embodiment of the network management tool 10 shows an augmented overlay view 18f with a set of specialized details 60 included in the selected information overlay subset 40, which are circumstantially useful, but would significantly reduce the overall usability of the base model representation 18a if they were displayed permanently. These specialized details 60 can include pre-defined telecommunication ~~information sets~~ information set 16 having detailed technology specific visual representations 49 for primary state and secondary state information contained within the information set 16, which can be displayed over the reference view 42 upon selection in the overlay selector panel 44. The use of multiple specific visual representations 49 to generate the altered overlay views 18b, c, d, e, f can help the

manager to consider the specialized details 60 in reference to a stable topology of nodes 20 and segments 22, and can avoid permanently cluttering the base model representation 18a with circumstantially useful information. Accordingly, the use of selected information overlay subsets 40 with specialized details 60, to provide the application of multiple technology specific visual representations 49 in parallel, can help the development of more versatile management systems. Other specialized details 60 can also include but are not limited secondary management, historical performance and/or traffic data.

Please amend the paragraph at page 17, lines 4-23, to read:

Referring to Figure 7 for operation of the network management tool 10, the manager can select 100 the desired network groups 52 from the telecommunication network layout 3 to be displayed on the GUI 12. Accordingly, the corresponding information set 16 is either downloaded from the databases 5, 6 or retrieved by the data collector 4 and sent to the network management processor 7 at step 102. The manager then decides 104 whether the selected network groups 52 and corresponding content of information set 16 is in a suitable format for display of the base model representation 18a on the GUI 12, which can include predefined information overlay subsets 40 and corresponding reference views 42. These predefined information subsets 40, 42 could have been generated in a save mode in previous applications of the GUI 12 to represent the base model representation 18a. In addition, editing of the data content of the information ~~set 16~~ set at step 103 can be done by using the network management tool 10 as an editing facility to layout the desired communication devices 14 and links 13. As the communication devices 14 and links 13 are constructed, they are assembled into the common GUI 12 display. The manager can use the network management tool 10 to construct the number and position of the nodes 20, the length and orientation of the segments 22, and assemble the corresponding attribute information set 16 related thereto. The manager can also choose the format of the background 24 to represent such as but not limited to specific topologies, geography, pre-defined or custom patterns, an abstract representation, or a saturated color. It is also recognized that traditional editing facilities could be used to edit the telecommunication network layout 3 prior to analyzing the edited versions by the network management tool 10.

Please add a paragraph at page 21, line 5 that reads:

“What is claimed is:”

Please amend the paragraph at page 22, lines 1-2, to read:

~~THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS~~ CLAIMS: